



The Ground Plane

South Bay
Amateur
Radio
Association
ARRL Member Club
Since 1974



Volume 5 Edition 2

February, 2004

It's February and your 2004 Leadership Team are working hard on a number of issues. If you have been following the board's motions in their minutes, you may remember that this year's board is chartered to focus on balancing the budget, that is, to leave a financially healthy organization for the 2005 leadership team.

It has felt like every time we take a step to increase income there is a surprise increase in expenses that makes it null and void. No sooner the board voted to raise the 2004 membership dues by \$5 for each membership category that we found out that the city instituted a rental fee for our use of the community center. You can read more about this in Sam Severs WS6S VP article in this issue of the Ground Plane.

In our constant search for ways to reduce expenses, the board will be discussing and voting on another cost reducing proposal. Under SBARA's Webmaster Tony Flusche AB6BR leadership, a team has been testing a proposal to provide the option to receive a monthly e-mail notification that your copy of the Ground Plane is available for viewing. The e-mail will contain an <http://> link that, if you click on it, you will be taken to the Ground Plane for viewing/printing. All you need is to have MS Explorer or Netscape on your PC or Mac and the latest version of Adobe Acrobat Reader installed. This may not be the way everyone wants to read the Ground Plane.

SBARA PRESIDENT'S MESSAGE

If approved by the board, this will be an option for those who do. You'll have to sign-up yourself for this option on the SBARA web page. Instructions to assist you in signing up have been written and tested. Printed copies of the Ground Plane will still be mailed to those paid members who do not sign-up. What the board hopes for is that the majority of the members with a high speed DSL or cable service will sign up for this paperless option. SBARA spent \$770 in printing and postage last year. If we can cut this in half the money saved will almost pay for the new rent on the Community Center SBARA uses once a month for meetings. (Cont'd. on Page 6)

Transmission Lines Impedance and SWR -

February SBARA Meeting Program

Want to find out how the transmission lines you use to feed your antennas works? At the February SBARA meeting the speaker, Mike Studer AB6CV, will take you through the basics of this important and sometimes mysterious subject. He will be taking you through a quick tour of feedlines with an emphasis on practical information that any ham can use to improve ham shack performance. If your interested in this subject and

Meeting Time and Location

SBARA meets the 3rd Wednesday of the month and out meetings begin at 7:30 PM.

We will be meeting once again back to the Fremont Community Center at Lake Elizabeth.

Bring a Guest!!

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SBARA Meeting Minutes—January 21, 2004

The meeting was called to order by Al Rendon WT6K. There appeared to be 18 individuals in attendance.

Visiting with us was Al Reynolds, a CB operator that uses the handle "hacksaw" as well as Warren KA6OST.

Dennis Franklin K6DF reported that he had worked XU7AAA (Cambodia) on 40M.

Gene Arrillaga KF6ZY reported that he worked the "Mighty MO" (The battleship Missouri) in Pearl Harbor, HI.

Bill Rausch AA6PA talked about activity in the Red Oak Victory ARC in Richmond CA. Located aboard the Red Oak, a victory (not liberty) ship from WW2. Bill related the restoration of 2 WW2 vintage Japanese HF sets that the club acquired.

Al Rendon WT6K indicated that he had participated in the NAQP contest (cw).

SBARA Secretary Sam Severs WS6S read the November meeting minutes - the minutes were accepted after a motion by Al Rendon WT6K.

SBARA Treasurer Jim Woods KE6IVA presented a financial report covering all of 2003.

Jim Woods offered to obtain SBARA name badges for interested members at a cost of \$8.50 each. Jim needs a minimum of 5 interested members to place an order.

Membership Report: Jim Woods KE6IVA relayed a membership report from

Membership Chair Kortnee Feriante KG6HDS. About 30 memberships have renewed to date - possibly representing up to 40 members due to some family memberships.

Al Rendon WT6K advised the membership that SBARA was now paying \$15.00/hr. to use the meeting facility at Lake Elizabeth's no longer free.

Visitor Al Reynolds addressed the club and advised of several opportunities for SBARA to provide communications...for a July 4 parade and a VFW parade to be held in Fremont on November 11, 2004. Al also advised of possibilities coming up in Newark. It appears that the "Rebel's" (a CB club) are no longer able to man these events and it's a service opportunity for SBARA.

Al Rendon WT6K drew attention to the slate of nominations put forward by the SBARA board and indicated that nominations for officers were open.

Bill Rausch AA6PA displayed a solar panel (1.38 Amps - open circuit voltage of 20VDC) and a regulator/battery charger that he uses with the array.

Al Rendon WT6K displayed a 24Ghz radio, which he will adapt to use with his current 10Ghz transverter system to give him dual band (10 & 24Ghz) capability. The radio is designed to mount directly to the rear of a parabolic dish antenna. The 24Ghz radio IF is 2M.

After a break Al Rendon WT6K announced that SBARA would raffle off a DMM. 18 tickets were sold and the winner was Kristen McIntyre K6WX.

Al Rendon WT6K opened the nominating process. Gene Arrillaga KF6ZY motioned that the club accept the slate of nominees with a single vote seconded by Sam Severs WS6S. A vote was taken and the result was unanimous.

For 2004 the officers will be: SBARA President - Al Rendon WT6K, SBARA

Vice-President - Sam Severs WS6S, SBARA Treasurer - Jim Woods KE6IVA.

No nominations were received for Secretary and that position is open.

End of meeting minutes.

Sam Severs WS6S, outgoing SBARA Secretary

ARRL TO PROPOSE NEW ENTRY-LEVEL LICENSE CODE-FREE HF ACCESS

The ARRL will ask the FCC to create a new entry-level Amateur Radio license that would grant HF phone privileges without a Morse code test. The League also will propose consolidating all current licensees into three classes, retaining the Element 1 Morse requirement--now 5 WPM-only for the highest class. The ARRL Board of Directors overwhelmingly approved the plan January 16 during its Annual Meeting in Windsor, Connecticut. The proposals, put forth by the ARRL Executive Committee, were in response to changes made in Article 25 of the international Radio Regulations at World Radio communication Conference 2003 (WRC-03).

"Change in the Amateur Radio Service in the US, especially license requirements and even more so when Morse is involved, has always been emotional," said ARRL First Vice President Joel Harrison, W5ZN, in presenting the Executive Committee's recommendations. "In fact, without a doubt, Morse is Amateur Radio's 'religious debate.'" Harrison said the League's proposal would provide "a true entry-level license with HF privileges" to promote growth in the Amateur Service.

The League says its proposal would continue a process of streamlining the amateur licensing structure that the FCC began more than five years ago but left unfinished in its Amateur Service license restructuring Report and Order (WT 98-143) that went into effect April 15, 2000. A new entry-level license class--being called "Novice" for now--would require a 25 question written exam. It would offer limited HF CW/data and phone/image privileges on 80, 40, 15 and 10 meters as well as VHF and UHF privileges on 6 and 2 meters and on 222-225 and 430-450 MHz. Power output would be restricted to 100 Watts on 80, 40, and 15 meters and to 50 W on 10 meters and up.

"The Board sought to achieve balance in giving new Novice licensees the opportunity to sample a wider range of Amateur Radio activity than is available to current Technicians while retaining a motivation to upgrade," said ARRL CEO David Sumner, K1ZZ. The ARRL plan would grandfather current Novice licensees into the new entry-level class without further testing.

The middle group of licensees--Technician, Tech Plus (Technician with Element 1 credit) and General--would be merged into a new General license that also would not require a Morse examination. Current Technician and Tech Plus license holders automatically would gain current General class privileges without additional testing. The current Element 3 General examination would remain in place for new applicants. The Board indicated that it saw no compelling reason to change the Amateur Extra class license requirements. The ARRL plan calls on the FCC to combine the current Advanced and Amateur Extra class licensees into Amateur Extra, because the technical level of the exams passed by these licensees is very similar. New applicants for Extra would have to pass a 5 WPM Morse code examination, and the written exam would stay the same.

Sumner said the Board felt that the highest level of accomplishment should include basic Morse capability. Current Novice, Tech Plus and General licensees would receive lifetime 5 WPM Morse credit.

Among other advantages, Sumner said the plan would allow new Novices to participate in HF SSB emergency nets on 75 and 40 meters as well as on the top 100 kHz of 15 meters. The new license also could get another name, Sumner said. "We're trying to recapture the magic of the old Novice license, but in a manner that's appropriate for the 21st century."

The overall proposed ARRL license restructuring plan would more smoothly integrate HF spectrum privileges across the three license classes and would incorporate the "Novice re-farming" plan the League put forth nearly two years ago in a Petition for Rule Making (RM-10413). The FCC has not yet acted on the ARRL plan, which would alter current HF sub-bands.

The ARRL license restructuring design calls for no changes in privileges for Extra and General class licensees on 160, 60, 30, 20, 17 or 12 meters. Novice licensees would have no access to those bands.

See "ARRL to Propose New Entry-Level License, Code-Free HF Access" on the ARRL Web site, <http://www.arrl.org/news/stories/2004/01/19/1/> for the specific sub-band allocations ARRL is proposing for each class.



Vice Presidents Message... (Cont'd from page 4)

The Leadership Team...

2004 is a new year for SBARA and the new board has hopes of making it a better year than 2003 in all ways. As your new SBARA VP I will be busy fully supporting our new President and intend to communicate to the membership the things that SBARA's board is currently working on. We are fortunate to have an almost fully manned board and all appointed positions are manned by dedicated individuals. The new SBARA officers are:

President: Al Rendon WT6K

Vice-President: Sam Severs WS6S

Treasurer: Jim Wood KE6IVA

Secretary: Position open

In addition the following individuals have agreed to serve in the following appointed positions:

Program Facilitator: Kristen McIntyre K6WX

Ground Plane Editor: Bill Artelt WB9YVM

Membership Chair: Kortnee Feriante KG6HDS

Photographer: Elice Ciralo KF6TQB

Quartermaster: Jim Wood KE6IVA

Web Master: Tony Flusche AB6BR

I would like to thank the many individuals who are continuing to serve in these appointed positions...they provide the club with continuity. Special thanks to Kristen K6WX who has agreed to assume Program Facilitator post (freeing Al Rendon to pre-side), Elice KF6TQB for assuming the Photographer's job (freeing me to support the President...and providing the club with a experienced and professional photographer) and Kortnee KG6HDS for the labor she has performed in keeping the membership database, making mailing labels and performing the odd tasks that Al and I have requested. All SBARA members owe their gratitude to these individuals for the time and expertise that they have volunteered to the club. Please join the board in welcoming these dedicated Radio Amateur's into service.

About Meeting Places...

The SBARA was recently surprised by the City of Fremont with a requirement that we pay \$15.00 per hour for the continued use of our current meeting facility. The low revenue that the city has received during the economic downturn has caused the layoff of park rangers and a reduction of hours for those who remain. Since the park must have a ranger present while we occupy the building the city has offered us this hourly rate, which is a discount. This is still quite an expense and we are currently looking into ways to either pay this fee or locate another meeting place that will not burden the club's finances. While I am checking on an alternate site I would entertain any ideas or alternate locations the membership might have. The objective here is to save money and provide continuity in our meeting arrangements.

Officers Report President & Vice-President

President's Message (cont'd. from Page 1)

The exciting news this month is that the ARRL is proposing to the FCC that a new NOVICE codeless class of HF license be created. It is my understanding that all the existing codeless Technician class hams will be 'Grand fathered' into this new Novice class. So all you Techs get ready to operate HF! Read the ARRL's article reprinted in this issue.

Hope to see you all at the February 18th SBARA membership meeting at the Fremont Community Center. There will be a program on 'Practical use of Antenna Feed Lines' and a raffle of some interesting items for you to use in improving your station.

73,

Al wt6k

Vice President's Message (cont'd. from page 5)

SBARA Monthly Raffle...

Recently the board agreed to abolish the monthly 50/50 drawing and substitute a raffle in its place. The raffle will feature one or more items per meeting and a variable ticket price (\$1 or \$5) depending on the number of items and their value. The January raffle netted a profit of \$13.50 for SBARA...going a long way towards paying the meeting rate. Some of the minor items were furnished to us free by HRO in Oakland so please remember to patronize their establishment. Since I will select the items to be raffled I would like input and feedback as to the items raffled.

locations the membership might have. The objective here is to save money and provide continuity in our meeting arrangements. Please remember that I will select items that will appeal to all license classes. While the board hopes to realize a profit from this monthly enterprise it is not a requirement.

Membership Cards Are Coming...

Our President has been busy working on producing individual membership cards that will allow SBARA members to get a 10% discount on accessories at HRO. Individual cards will show the SBARA logo and have your name and call. They will be laminated and signed by the membership Chair. No news yet as to how we will deliver cards to members that rarely attend meetings but expect them soon anyway!

SBARA QSL Card's Are In The Works...

The board recently authorized me to design a QSL card so we could reply to a number of QSL requests that have arrived since Field Day. I will arrange to have an image of the card published in a future edition of the Ground Plane.

Sam Severs WS6S email to <ws6s@arrl.net>

SBARA Vice-President

FREEBIES

Three-section steel mast, extends to 25 feet. Not pretty but fully serviceable.

Also a single 10 foot section.

Ted Cameron, N6BFO, 656-1913

Antennas—Some Rules of Thumb for Beginners

Every now and then somebody asks the list for antenna suggestions. Quite often these people asking are beginners who are afraid of making the wrong choice. In order to help QRP'ers choose antennas wisely I have compiled a few "rules of thumb". As with any rules of thumb, these are general and there are some exceptions to them. A few may be somewhat controversial and I am sure alternate views will be given by those with opposite views. However I intend these guidelines to point one in the right direction rather than providing a detailed map of what to do.

1. Any antenna is better than no antenna. Rather than agonizing over an antenna choice, just put one up and operate. After operating with it for a while you will become aware of your operating habits and the shortcomings of the antenna you have erected. That will give you some hints as to which direction you should go with another antenna. You can lose 1/2 of your power in poor antenna system efficiency and only be down an S unit or so. I hear lots of S9 QRP stations. They would still make fine QSO's at S8. I am not advocating antenna inefficiency, but you can live with it. It is better than no antenna at all.
2. Higher antennas generally out perform lower antennas. A vertical on the roof of a one story house is probably a better choice than one on the ground in the backyard. A dipole whose end is tied to a 5 or 10 ft mast on top of the house will out perform one whose end is merely fastened to the eave.
3. Most people will be happier with a low dipole than with a vertical. Verticals require a bit more attention to work effectively and beginners can become frustrated in dealing with ground issues.
4. It pretty much doesn't matter what kind of copper wire you use in an antenna. Thick or thin, insulated or bare, stranded or solid, they will all perform fairly well. Any effects due to these characteristics will be "second order". The old formula for cutting a half wave dipole, $468/\text{frequency (in MHz)}$, may be a bit different for various combinations, but this formula is only an approximation anyway.
5. Whatever antenna you chose, if it is fed with coaxial cable you should use a choke balun. This will prevent the feed line from becoming part of the antenna which can cause all sorts of problems. There are many designs to choose from. My favorite is an air core balun wound from coax. These are described in the ARRL Handbook and in the ARRL Antenna Book. You don't have either? Then,
6. Purchase a Handbook or ARRL Antenna Book and study it. Antennas don't change much, so even an old copy of the Antenna Book will be very useful. These show up at Ham Fests occasionally. You can also special order ARRL publications from good bookstores.
7. Outdoor antennas perform better than indoor ones. If all you can erect is an indoor antenna, fine, but try to see if there is a way to get up an antenna outside. A thin wire supported an inch or more away from the building will be much better than one inside. If you can dangle a wire out a second story window, feed against a counterpoise, that will be a pretty good antenna.
8. Don't scrimp on feed-line. Good, low-loss feed-line does not cost much more than the antenna it is feeding.
9. Most single band antennas can be made into multi-band antennas by feeding them with a balanced feeder like window line and using a tuner. This applies to loops as well as dipoles. For an inexpensive low loss tuner see Cecil's method of changing the feed line length to achieve a match: <http://www.geocities.com/CapeCanaveral/8476/>
10. If you have antenna restrictions consider a temporary antenna. The SD-20 Black widow Crappie Pole can be erected with a wire of choice to make a vertical in a matter of seconds. With a few radials or a chain link fence as a ground, this can give a good account of itself. If somebody complains about it take it down and next time erect it where they can't see it.

(Cont'd. on Page 8)

Antennas—Some Rules of Thumb for Beginners

(Cont'd. from Page 7)

11. Consider your operating practices in choosing an antenna. If you can only operate in the evening, then even a high 10 M antenna will not provide you with much operating time. The band will usually be dead after sunset. On the other hand, a 40 M dipole will provide you with a number of contacts late into most evenings. It can also be used on 15 M for those occasions when you can operate during the day.

12. Avoid the temptation to "have it all". Multi-band antennas are often attractive to new comers. So are electrically "small" antennas. They are by necessity compromises, and usually don't work as well as single band antennas. I suggest erecting a single band dipole and using it for a while. As you get used to operating or have desires to try out other bands you can erect another antenna, or feed the one you have (if it is a dipole) with ladder line for multi-band use. You can build and feed a lot of single band dipoles for the price of an R-7000!!

13. Homemade antennas are better than commercial ones. Ask anyone on the list who has built one!!

I hope that someone finds this useful. See you on the air. - Dr. Megacycle KK6MC/5

James R. Duffey KK6MC/5, 30 Casa Loma Road Cedar Crest, NM 87008

The basic formula for determining the wire length of a center fed, 1/2 wave wire dipole or inverted Vee antenna (30 mhz or less) is $468/\text{freq}(\text{mhz})$. The inverted Vee antenna will be shorter by 2 - 5% depending on the angle from horizontal. Dipoles and inverted vee antennas have a feed point of about 75 ohm's in free space, and can be fed with 52 to 72 ohm coax with or without a 1:1 balun. A very good Antenna Calculator can be found at the following URL—

http://www.cdxa.org/antenna_cal_diople.html

WB4BXW - Wayne Seltzer 3215 Dunaire Dr. Charlotte, NC. 28205-4714

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SBARA Thanks To HRO

SBARA would like to thank Ham Radio Outlet for their generous door-prizes. They made a great addition to our January Club meeting.

Thanks again to Mike and the entire staff at HRO Oakland for making our meeting a real success!!!!

Bill Artelt Newsletter Editor

2004 - SBARA Leadership Team**President**

Al Rendon — WT6K

wt6k@arrl.net

Vice President

Sam Severs — WS6S

ws6s@arrl.net

Treasurer

Jim Wood — KE6IVA

jimke6iva@comcast.net

Secretary

Vacant

Program Facilitor

Kristen McIntyre — K6WX

kristen@alum.mit.edu

Membership Chairperson

Kortnee Feriante — KG6HDS

dearkortnee@comcast.net

WebMaster

Tony Flusche — AB6BR

ab6br@arrl.net

Newsletter Editor

Bill Artelt — WB9YVM

hamradio@comcast.net

Photographer

Elise Ciraolo — KF6TQB

ciraolo@earthlink.net

**SBARA on the Internet at <http://www.qsl.net/sbara>
On the Air at *147.015 + PL 103.5***

The Ground Plane**<http://www.qsl.net/sbara>****South Bay Amateur Radio Association—SBARA****P.O. Box 8377****Fremont, Ca. 94537-8377**